

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
HEINZ EICHBERGER et al.

Application No.: 10/566,033

Confirmation No.: 9411

Filed: July 14, 2006

Art Unit: 3742

For: METHOD OF CHARGING FINE-GRAINED
METALS INTO AN ELECTRIC-ARC
FURNACE

Examiner: Q. T. Van

APPELLANT'S REPLY BRIEF UNDER 37 C.F.R. 41.41

MS Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

March 19, 2010

Dear Sir:

Appellant submits this Reply Brief in accordance with 37 C.F.R. § 41.41 in support of its Appeal Brief filed November 2, 2009, in the above-identified patent application. This Reply Brief is in response to the Examiner's Answer by Examiner Quang T. Van mailed January 21, 2010.

The filing of this Reply Brief requires no fee. However, the Commissioner is hereby authorized to charge any unpaid fees deemed required in connection with this Reply Brief, or to credit any overpayment, to Deposit Account No. 04-0100.

I. RELATED APPEALS AND INTERFERENCES

To Appellants' knowledge, there are no other appeals, interferences or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

II. STATUS OF CLAIMS

Claims 1-26 are pending in the present application.

This appeal is in respect of the rejection of claims 1-26.

There are 26 claims pending in the application, *i.e.*, claims 1-26. They are reproduced in the **Claims Appendix**. The current status of the application's claims is as follows:

1. Claims canceled: none
2. Claims withdrawn from consideration but not canceled: none
3. Claims pending: 1-26
4. Claims allowed: none
5. Claims rejected: 1-26

III. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-2, 4-8, 10, 13, 15, 17 and 20-26 can properly be rejected as obvious under 35 U.S.C. § 103(a) on a combination of U.S. Patent No. 6,477,195 to Mittag et al ("Mittag") in view of U.S. Patent Application to No. 3,258,328 to Goss et al ("Goss").

2. Whether claims 10, 13-19 and 20-21 can be properly rejected as obvious under 35 U.S.C. § 103(a) on a combination of U.S. Patent No. 3,634,592 to Pantke et al ("Pantke") in view of Goss.

3. Whether claim 9 can be properly rejected as obvious under 35 U.S.C. § 103(a) on a combination of Mittag in view of Goss.

4. Whether claims 3 and 11-12 can be properly rejected as obvious under 35 U.S.C. § 103(a) on a combination of Mittag in view of Goss and further in view of U.S. Patent No. 3,379,426 to Reuter et al ("Reuter").

5. Whether claim 11 can be properly be rejected as obvious under 35 U.S.C. § 103(a) on a combination of Pantke in view of Goss and further in view of Reuter.

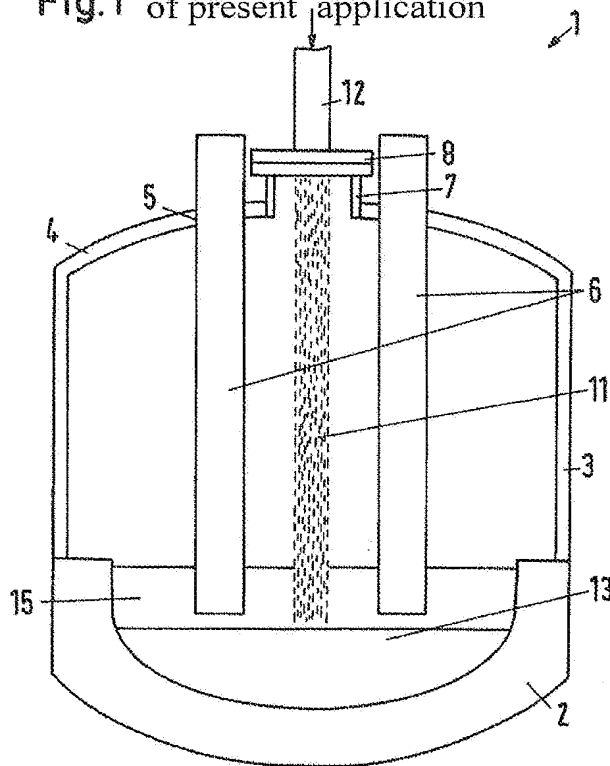
**IV. ARGUMENT IN RESPONSE TO THE EXAMINER'S ANSWER MAILED
JANUARY 21, 2010**

The assertions set forth in the Appeal Brief filed November 2, 2009 are respectfully maintained. The following points are made only to clarify those assertions and answer any new contentions set forth in the Examiner's Answer dated January 21, 2010.

1. Rejection of claims 1-2, 4-8, 10, 13, 15, 17 and 20-26 under 35 U.S.C. § 103(a) based on U.S. Patent No. 6,477,195 to Mittag et al ("Mittag") in view of U.S. Patent Application to No. 3,258,328 to Goss et al ("Goss").

Independent claims 1 and 22 of the present application both recite a method in which a bulk material stream is passed through a dosing orifice to control a material flow rate so that "the bulk material stream enters the furnace essentially undisturbed" and that "the bulk material stream is not substantially enlarged during the fall onto the melt." This is illustrated by Fig. 1 of the present application:

Fig.1 of present application



It is respectfully submitted that Mittag fails to disclose at least the features that “the bulk material stream enter the furnace essentially undisturbed” and that “the bulk material stream is not substantially enlarged during the fall onto the melt,” as recited in claims 1 and 22. The Examiner states in his Examiner’s Answer that:

Mittag discloses a sponge iron is introduced through a down pipe (D, Figure above) with large quantities of up to 7,000 kg/min (col. 1, lines 35-50) **undisturbed by gravitation** (col. 2, lines 8-14).

See Examiner’s Answer, page 7, first full paragraph, lines 4-6 (emphasis added). “Undisturbed by gravitation” is, however, not disclosed in Mittag. Mittag discloses at column 1, lines 35-50:

The invention has as its object to make it possible to apply the CO post-combustion technology also to electric-arc furnaces which serve the purpose of melting down sponge metal, in particular sponge iron, under fiat-bath conditions. With electric-arc furnaces for melting down sponge iron, sponge iron is introduced through a cover hole, which is arranged outside the center, namely roughly at the circumference of a cover heart, via a chute or slide, and this in large quantities of up to 7,000 kg/min. In practice, in the absence of specific measures, an average of 28 to 40 kg of sponge iron is introduced per MW of electric-power input and per minute. The sponge iron, which is in lumpy form (pellets and/or briquettes) as well as, optionally, also in fine particulate form, gets for example in the form of a trajectory parabola close to the center of the electric-arc furnace, that is, its energy center, in which one electrode or several electrodes are arranged.

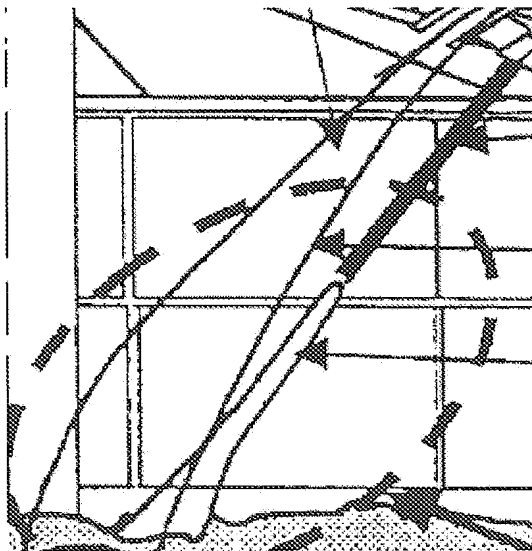
See Mittag, column 1, lines 35-52. Mittag states at column 2, lines 8-14:

... and the sponge metal jet preferably is conveyed into the electric-arc furnace by gravitation alone, and/or immediately adjacent to the point of incidence of the sponge metal jet and which jet in the region or vicinity of that point of incidence, on the side facing the electrode(s) of the electric-arc furnace, is shielded by the sponge metal jet relative to the electrode(s) in the form of a protective shield.

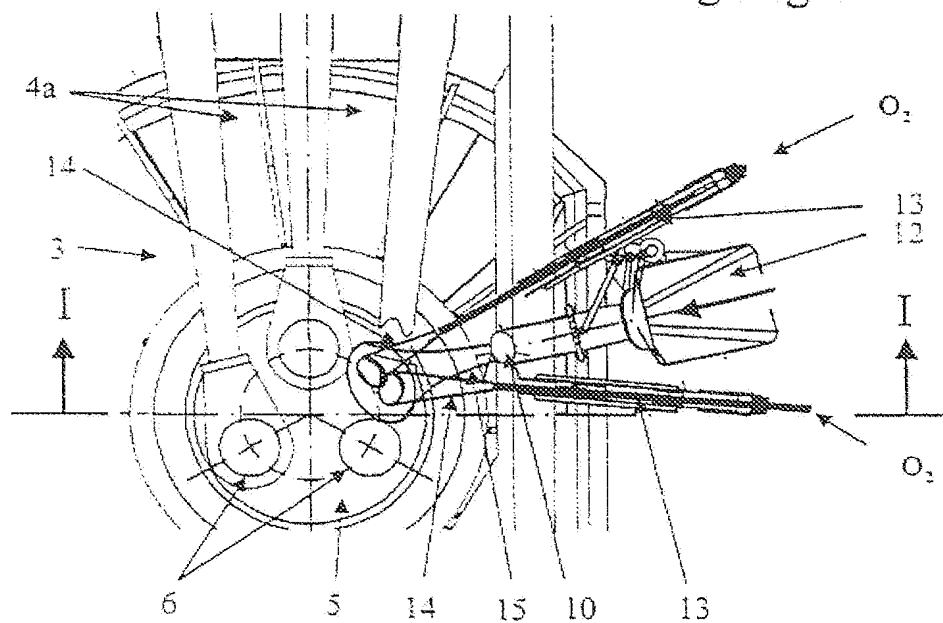
Nothing is stated in Mittag about being “undisturbed by gravitation.” In contrast, a review of the various Figures and of the specification in Mittag clearly demonstrate:

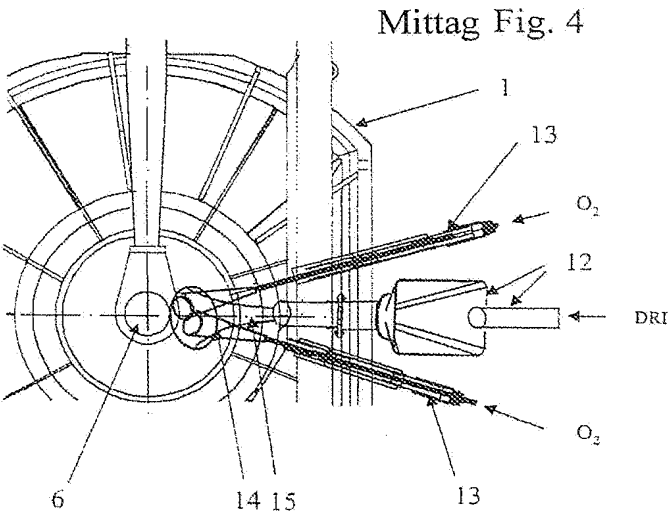
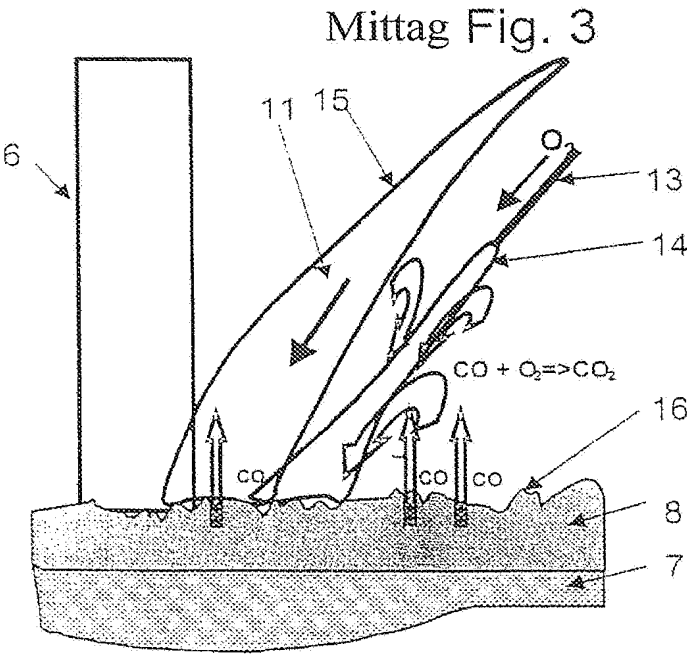
- 1) That the introduction of the sponge iron 15 into the electric-arc furnace 1 in Mittag *is* disturbed; and
- 2) That the sponge iron jet 15 so introduced *is* substantially enlarged during the fall onto the melt.

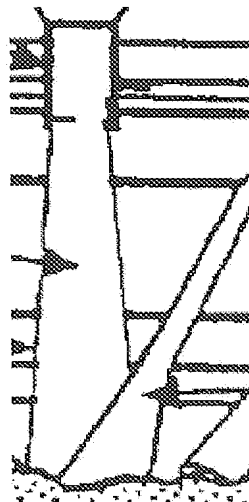
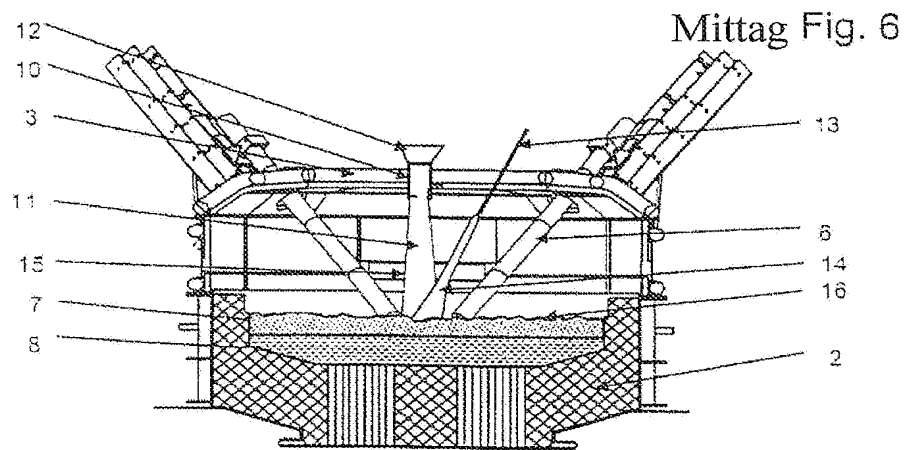
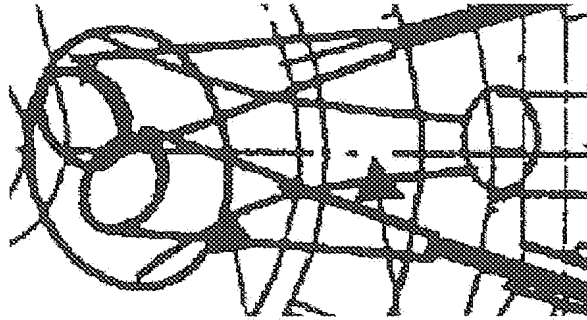
Figs 1-4 and 6 are shown below first in their entirety and then as a cut-out concentrating on the sponge iron jet 15 and its interaction with the oxygen jet 14. Fig. 5 is not shown because that figure merely shows a top view.



Mittag Fig. 2



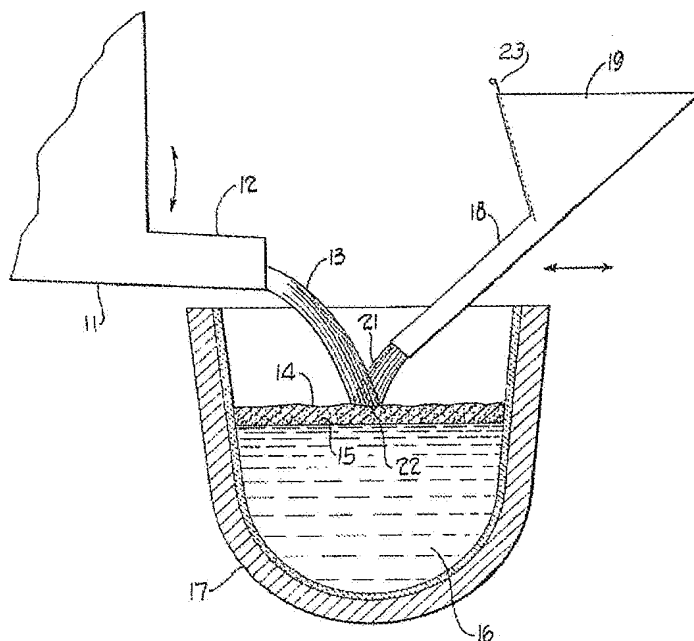




As can be seen from the aforementioned Figures of Mittag, the sponge iron jet 15 of Mittag is substantially enlarged during the fall onto the melt. In none of the Figures is the sponge iron jet 15 anything but fan-like; i.e., it expands as it falls, it is broader at the bottom than at the top. Mittag also describes this expansion by stating that the falling sponge iron 15 forms its periphery a "cone envelope" when falling. See Mittag, column 4, lines 48-52. The Mittag Figures also show that sponge iron jet 15 is contacted by oxygen jet 14 as it falls. Mittag further confirms such contact by describing it as being "essential to the invention" that the sponge iron jet 15 form "a protective shield" which prevents immediate contact of the oxygen blown in with electrode 6. See Mittag, column 3, lines 56-64. As shown in Fig. 6, even where the sponge iron jet 15 of Mittag is arranged vertically and centrally in a free fall, the falling sponge iron jet 15 forms, with its periphery in the form of a cone envelope, "a protective shield" between oxygen jets 14 of oxygen lances 13 and a part of electrodes 6. See Mittag, column 4, lines 35-55.

Goss does not cure these defects. Reference is made to Fig. 1 of Goss:

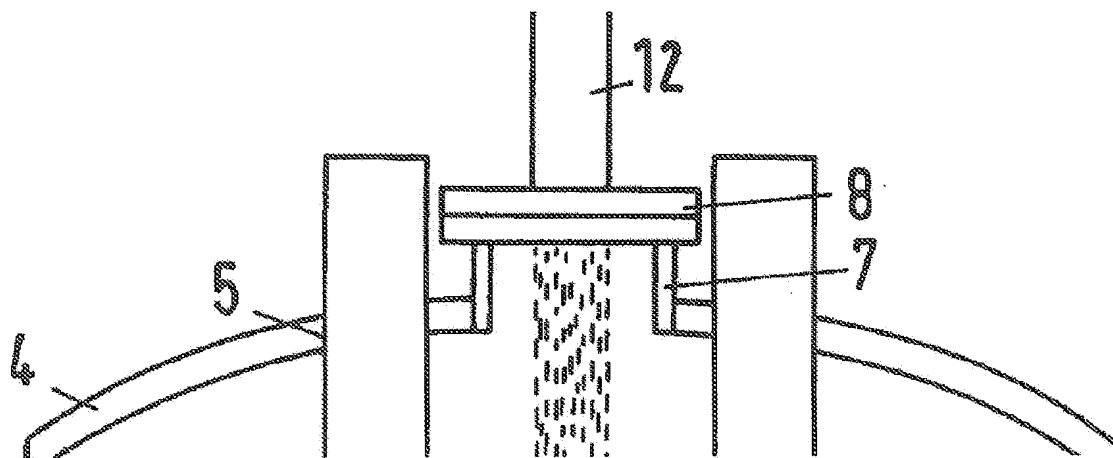
Goss Fig. 1



In Fig. 1 of Goss, the chute 18 is adjusted either automatically or manually so that the flux 21 will hit the surface of the molten slag 14 and join the stream of molten metal 13 at the same point 22 on the surface of the molten metal 15 so as to be thoroughly mixed with the molten metal 16 in the top ladle. See Goss, column 3, lines 3-8 and Fig. 1. Goss therefore teaches that the streams must be disturbed so as to be thoroughly mixed. Goss furthermore neither teaches or suggests that the bulk material stream is not substantially enlarged during the fall onto the melt, as recited in claims 1 and 22. In contrast, Fig. 1 of Goss clearly shows an enlargement of the flux 21 falling onto molten melt 16.

Because each of Mittag and Goss fails to teach or suggest at least the above-recited features of claims 1 and 22, it is respectfully submitted that any combination of these references, to the extent proper, could not render either of claims 1 or 22, or any of their respective dependent claims, obvious.

Independent claim 10 of the present application recites an electric-arc furnace having “a furnace roof being connected with a downpipe,” “wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace.” An embodiment corresponding to this claim language is illustrated by a cutout of Fig. 1 of the present application where the downpipe 12, the adjustable dosing orifice 8 and the furnace roof 4 are shown:



Cutout of Fig. 1 of the Present Application

The Examiner has previously confirmed that Mittag does not teach a dosing orifice. See Office Action dated June 2, 2009, Detailed Action, page 2, last line to page 3, line 2 and the Advisory Action dated August 17, 2009, lines 10-11. Goss does not cure this defect. In contrast, Goss describes an adjustable gate 23/hopper 19/chute 18 arrangement which is not connected to the tap ladle 17, and where tap ladle 17 also lacks a furnace roof and is filled with metal tapped from the furnace 11 through spout 12. See Goss, Fig. 1. The gate 23 is furthermore provided between the hopper 19 and the chute 18 and not at the opening of the chute 18 into the tap ladle 17, much less at an opening of the chute 18 into the furnace 11 as is required by claim 10 of the present application. Goss therefore does not teach or suggest a furnace roof connected with a downpipe wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace as is recited in claim 10.

Because each of Mittag and Goss fails to teach or suggest at least the above-recited features of claim 10, any combination of these references, to the extent proper, could not render claim 10, or any of its dependent claims, obvious.

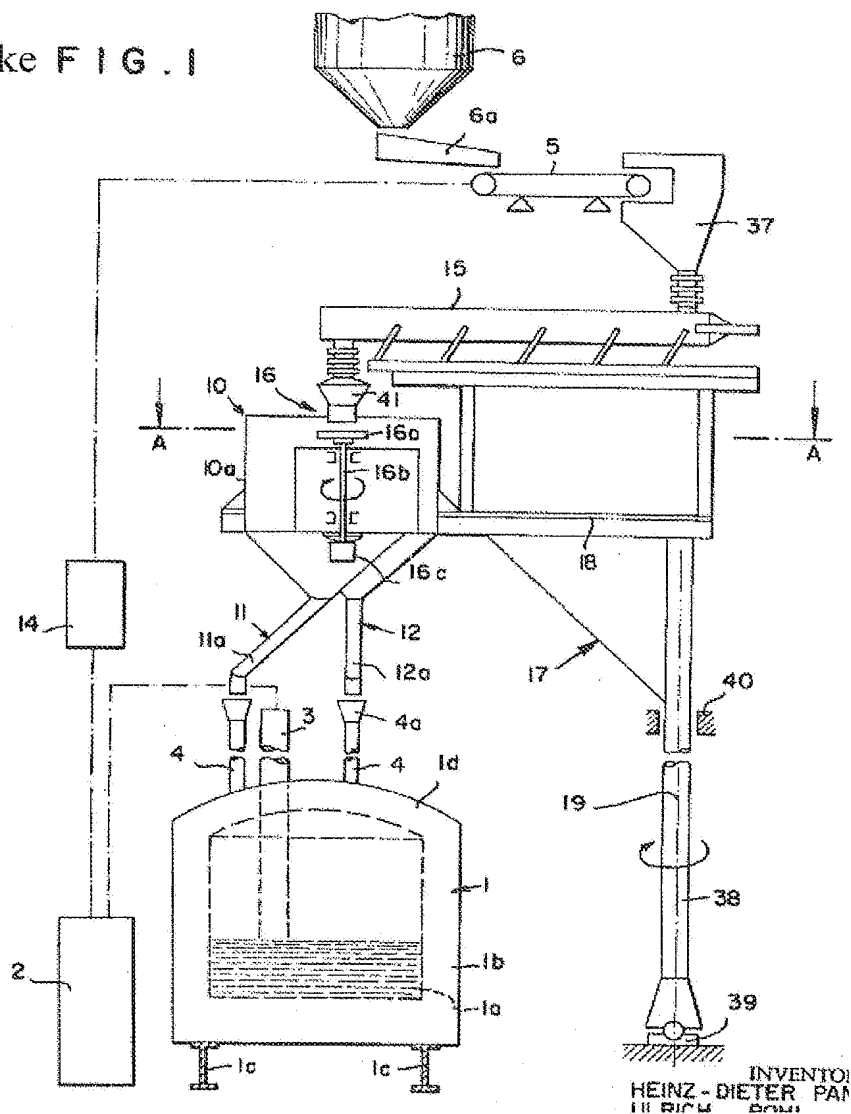
Accordingly, it is respectfully submitted that claims 1-2, 4-8, 10, 13, 15, 17 and 20-26 are patentable over a combination of Mittag and Goss.

2. Rejection of claims 10, 13-19 and 20-21 under 35 U.S.C. § 103(a) on a combination of U.S. Patent No. 3,634,592 to Pantke et al ("Pantke") in view of Goss.

Independent claim 10 of the present application recites an electric-arc furnace having "a furnace roof being connected with a downpipe," "wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace."

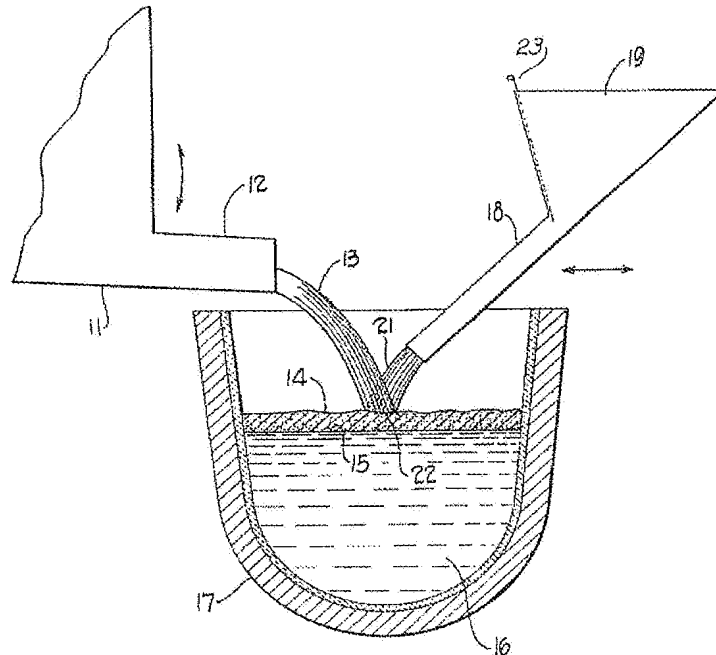
Pantke describes a system for charging sponge iron into an electric arc furnace where a charging arrangement 5, 6 and 10 continuously introduces sponge iron into a furnace 1. See Pantke, column 4, lines 52-54 and Fig. 1. The charging arrangement 5, 6 and 10 lead the sponge iron via chutes 11a and 12a to the charging openings/risers 4 which carry funnels 4a at their upper ends. See Pantke, column 4, lines 47-50, column 5, lines 21-24 and Fig. 1 as shown below:

Pantke FIG. 1



Goss describes a chute 18 with an adjustable gate 23 attached to the hopper 19 which is arranged so as to cause a measured quantity of the addition agents to fall continuously upon the point of entry of the molten metal stream into the molten metal 16 in the tap ladle 17. See Goss, column 2, lines 55-60 and Fig. 1 below:

Goss Fig. 1



As can be seen from Fig 1. of Pantke and Fig 1 of Goss, neither teach or suggest “a furnace roof being connected with a downpipe,” “wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace,” as recited in claim 10. In contrast, Pantke merely describes charging openings/risers 4 which carry funnels 4a at their upper ends at the opening of the downpipe. See Pantke, column 4, lines 49-50 and Fig. 1. Moreover, the charging arrangement 5, 6 and 10 in Pantke is not located “at the opening of the downpipe into the furnace;” it is located above the funnels 4a. See Pantke, column 4, lines 44-54 and Fig. 1. Goss does not cure this defect. In contrast, Goss describes an adjustable gate 23/hopper 19/chute 18 arrangement which is not connected to the tap ladle 17, and where tap ladle 17 also lacks a furnace roof and is filled with metal tapped from the furnace 11 through spout 12. See Goss, Fig. 1. The gate 23 is furthermore not located “at the opening of the downpipe into the furnace.” No downpipe is provided in Goss at all. The adjustable gate 23/hopper 19/chute 18 arrangement of Goss is provided between the hoper 19 and the chute 18 and not at the opening of the chute 18 into

the tap ladle 17, much less at an opening of the chute 18 into the furnace 11 as is required by claim 10 of the present application.

The Examiner contends that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize in Pantke an opening of the downpipe into the furnace an adjustable dosing orifice as taught by Goss in order to control a flow of the material into the furnace.” See Examiner’s Answer, page 8, first full paragraph, lines 11-14. It is respectfully submitted, however, that had a person skilled sought to incorporate the adjustable gate 23 of Goss into the system of Pantke, the adjustable gate would have been incorporated at the point of charging arrangement 5, 6 and 10 in Pantke and not at an opening of the downpipe into the furnace. Neither Pantke nor Goss teach or suggest “a furnace roof being connected with a downpipe” “wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace” as is recited in claim 10.

Because each of Pantke and Goss fails to teach or suggest at least the above-recited features of claim 10, any combination of these references, to the extent proper, could not render claim 10, or any of its dependent claims, obvious. Accordingly, it is respectfully submitted that claims 10, 13-19 and 20-21 are patentable over a combination of Pantke and Goss.

3. Rejection of claim 9 as obvious under 35 U.S.C. § 103(a) on a combination of Mittag in view of Goss.

It is respectfully submitted that claim 9 properly depends from independent claim 1. As stated above, none of Mittag or Goss disclose the features that “the bulk material stream enters the furnace essentially undisturbed” and that “the bulk material stream is not substantially enlarged during the fall onto the melt,” as recited in claim 1. Reference is specifically made to the Figures of Mittag and Goss above.

Because each of Mittag and Goss fails to teach or suggest at least the above-recited features of claim 1, any combination of these references, to the extent proper, could not render claim 1, or dependant claim 9, obvious. Accordingly, it is respectfully submitted that claim 9 is patentable over a combination of Mittag and Goss.

4. Rejection of claims 3 and 11-12 as obvious under 35 U.S.C. § 103(a) on a combination of Mittag in view of Goss and further in view of U.S. Patent No. 3,379,426 to Reuter et al (“Reuter”).

Mittag and Goss were described above.

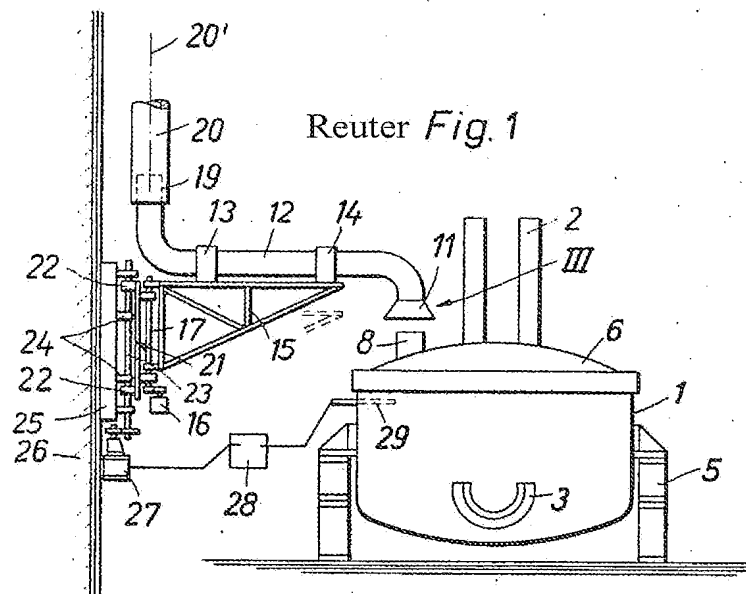
Reuter describes a suction device for removing furnace gasses and ambient air from an electric arc furnace. See Reuter, column 1, lines 15-21 and column 3, lines 39-40.

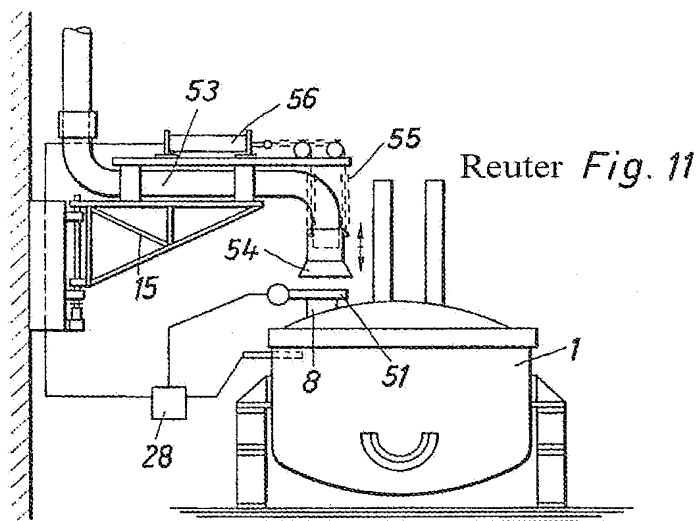
It is respectfully submitted that claim 3 properly depends from independent claim 1. As stated above, none of Mittag or Goss disclose the features that “the bulk material stream enter the furnace essentially undisturbed” and that “the bulk material stream is not substantially enlarged during the fall onto the melt,” as recited in claim 1. Nor do Mittag or Goss suggest these features. Nor does Reuter cure this defect. In contrast, Reuter describes two different types of shutters 60 and 61 which can be placed onto a nozzle 59 to meter the amount of gas and ambient air sucked into the nozzle from the electric-arc-furnace 1. See Reuter, column 3, lines 39-40, column 4, lines 46-55 and Figs. 12-14. The Examiner furthermore acknowledges that Reuter does not disclose these features by stating that Reuter is only used for the teaching of the material stream passed through an iris. See Examiner’s Response, page 10, lines 4-5. Reuter therefore does not teach or suggest the features that “the bulk material stream enter the furnace essentially undisturbed” and that “the bulk material stream is not substantially enlarged during the fall onto the melt,” as recited in claim 1.

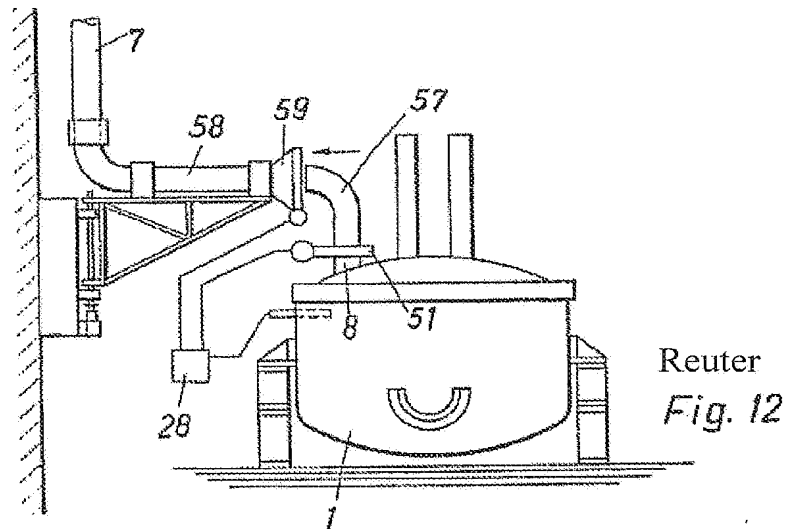
Therefore, a combination of Mittag and Goss with Reuter, to the extent proper, could not render claim 1 or its dependent claim 3 obvious. Accordingly, it is respectfully submitted that claim 3 is patentable over a combination of Mittag, Goss and Reuter.

Claims 11 and 12 were rejected as obvious under 35 U.S.C. § 103(a) on a combination of Mittag, Goss and Reuter. It is respectfully submitted that claims 11 and 12 properly depend from independent claim 10. As stated with respect to claim 10 under Rejection 1 above, none of Mittag or Goss disclose an electric-arc furnace having “a furnace roof being connected with a downpipe,” “wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace.” Nor do Mittag or Goss suggest these features.

Reuter does not cure this defect. In contrast, Reuter describes two different types of shutters 60 and 61 which can be placed onto a nozzle 59 to meter the amount of gas and ambient air sucked into the nozzle from the electric-arc-furnace 1. See Reuter, column 3, lines 39-40, column 4, lines 46-55 and Figs. 12-14. The Examiner acknowledges that Reuter does not disclose these features by stating that Reuter is only used for the teaching of the material stream passed through an iris. See Examiner's Response, page 10, lines 4-5. The various figures of Reuter also clearly show that the suction device containing the nozzle/iris 59, 60, 61 is not connected with the furnace roof. This is most clearly shown in Reuter Figs. 1, 9, 11-12, with emphasis being placed on Fig. 12 where the placement of the nozzle/iris 59, 60, 61 is clearly shown:







Reuter therefore does not teach or suggest “a furnace roof being connected with a downpipe” “wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace” as is recited in claim 10.

Therefore, a combination of Mittag and Goss with Reuter, to the extent proper, could not render claim 10 or its dependent claims 11 and 12 obvious. Accordingly, it is respectfully submitted that claims 11-12 are patentable over a combination of Mittag, Goss and Reuter.

5. Rejection of claim 11 as obvious under 35 U.S.C. § 103(a) on a combination of Pantke in view of Goss and further in view of Reuter.

It is respectfully submitted that claim 11 properly depends from independent claim 10. As stated under Rejection 2 above, none of Pantke or Goss teach or suggest a “furnace roof being connected with a downpipe,” “wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace,” as recited in claim 10. Nor do Pantke or Goss suggest these features. Nor does Reuter cure this defect. In contrast, Reuter describes two different types of shutters 60 and 61 which can be placed onto a nozzle 59 to meter the amount of gas and ambient air sucked into the nozzle from the electric-arc-furnace 1. See Reuter, column 3, lines 39-40, column 4, lines 46-55 and Figs. 12-14. The Examiner furthermore

acknowledges that Reuter does not disclose these features by stating that Reuter is only used for the teaching of the material stream passed through an iris. See Examiner's Response, page 10, lines 4-5. The various figures of Reuter moreover show that the suction device is not connected with the furnace roof. This is most clearly shown in Reuter Figs. 1, 9, 11-12 above, with emphasis again being placed on Fig. 12 where the placement of the nozzle/iris 59, 60, 61 is clearly shown. Reuter therefore does not teach or suggest "a furnace roof being connected with a downpipe" "wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace," as recited in claim 10.

Therefore, a combination of Pantke and Goss with Reuter, to the extent proper, could not render claim 10 or its dependent claim 11 obvious. Accordingly, it is respectfully submitted that claim 11 is patentable over a combination of Pantke, Goss and Reuter.

CONCLUSION

For all of the reasons set forth above, the rejections of claims 1-26 should be reversed. Appellants respectfully request that the rejections be withdrawn, and the case passed to allowance.

Dated: March 19, 2010

Respectfully submitted,

By 

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Attachments: Claims Appendix A
Evidence Appendix B
Related Proceedings Appendix C

CLAIMS APPENDIX A

Claims Involved in the Appeal of Application Serial No. 10/566,033

Claim 1 (Previously Presented): A method of charging a bulk material including fine-grained metal, metal compounds or a mixture of two or more metals or metal compounds, into an electric-arc furnace, in which the bulk material is supplied essentially continuously via at least one downpipe to one or more openings provided in the furnace roof, is introduced into the furnace through said at least one opening as a bulk material stream, and falls onto the melt merely by gravity, wherein before entering the furnace after the downpipe the bulk material stream is passed through a dosing orifice to control a material flow rate so as to maintain at least a portion of the downpipe filled with the bulk material so that the bulk material stream enters the furnace essentially undisturbed, so that the bulk material stream is not substantially enlarged during the fall onto the melt.

Claim 2 (Previously Presented): The method as claimed in claim 1, wherein after the downpipe the bulk material stream is passed through a round or oval dosing orifice.

Claim 3 (Previously Presented): The method as claimed in claim 1, wherein after the downpipe the bulk material stream is passed through an iris.

Claim 4 (Previously Presented): The method as claimed in claim 1, wherein the dosing orifice is inclined by not more than 25° with respect to the horizontal.

Claim 5 (Previously Presented): The method as claimed in claim 1, wherein the dosing orifice is arranged horizontally.

Claim 6 (Previously Presented): The method as claimed in claim 1, wherein the mass flow of the bulk material stream in the downpipe is kept larger than the throughput through the dosing orifice.

Claim 7 (Previously Presented): The method as claimed in claim 1, wherein after the dosing orifice the bulk material stream is passed through a protective tube.

Claim 8 (Previously Presented): The method as claimed in claim 7, wherein the protective tube is cooled.

Claim 9 (Previously Presented): The method as claimed in claim 1, wherein the metal, metal compound or mixture of two or more metals or metal compounds introduced into the furnace has a mean grain size of less than 1 mm.

Claim 10 (Previously Presented): An electric-arc furnace for charging with fine-grained directly reduced iron or ores, comprising a furnace roof having at least one opening, the at least one opening of the furnace roof being connected with a downpipe leading to the furnace lid from outside for supplying the material to be charged, wherein at an opening of the downpipe into the furnace an adjustable dosing orifice is configured to control a flow of the material into the furnace is provided.

Claim 11 (Previously Presented): The electric-arc furnace as claimed in claim 10, wherein the dosing orifice is an iris.

Claim 12 (Previously Presented): The electric-arc furnace as claimed in claim 10, wherein the dosing orifice has at least two slides movable with respect to each other.

Claim 13 (Previously Presented): The electric-arc furnace as claimed in claim 10, wherein the dosing orifice is inclined with respect to the horizontal by not more than 25°.

Claim 14 (Previously Presented) The electric-arc furnace as claimed in claim 10, wherein the dosing orifice is arranged horizontally.

Claim 15 (Previously Presented): The electric-arc furnace as claimed in claim 10, wherein the bulk recipient vessel constitutes a mass flow silo.

Claim 16 (Previously Presented): The electric-arc furnace as claimed in claim 10, wherein the downpipe is arranged vertically.

Claim 17 (Previously Presented): The electric-arc furnace as claimed in claim 10, wherein below the dosing orifice a preferably vertical protective tube is provided.

Claim 18 (Previously Presented): The electric-arc furnace as claimed in claim 17, wherein the length of the protective tube is about 1 to 3 times the maximum diameter of the stream of bulk material.

Claim 19 (Previously Presented): The electric-arc furnace as claimed in claim 17 wherein the protective tube is cooled.

Claim 20 (Previously Presented): The electric-arc furnace as claimed in claim 17, wherein the diameter of the protective tube is at least twice as large as the opening diameter of the dosing orifice.

Claim 21 (Previously Presented): The electric-arc furnace as claimed in claim 10, wherein the maximum opening diameter of the dosing orifice is smaller than or equal to the diameter of the downpipe.

Claim 22 (Previously Presented): A method of charging a bulk material including fine-grained metal, metal compounds or a mixture of two or more metals or metal compounds, into an electric-

arc furnace, in which the bulk material is supplied essentially continuously via at least one downpipe to one or more openings provided in the furnace roof, is introduced into the furnace through said at least one opening as a bulk material stream, and falls onto the melt merely by gravity, wherein before entering the furnace after the downpipe the bulk material stream is passed through an adjustable dosing orifice to control a material flow rate so as to maintain at least a portion of the downpipe filled with the bulk material so that the bulk material stream enters the furnace essentially undisturbed, so that the bulk material stream is not substantially enlarged during the fall onto the melt.

Claim 23 (Previously Presented): The method as recited in claim 22, wherein the adjustable dosing orifice is round or oval.

Claim 24 (Previously Presented): The method as claimed in claim 22, wherein the adjustable dosing orifice is an iris.

Claim 25 (Previously Presented): The method as claimed in claim 22, wherein the adjustable dosing orifice is inclined by not more than 25° with respect to the horizontal.

Claim 26 (Previously Presented): The method as claimed in claim 22, wherein the adjustable dosing orifice is arranged horizontally.

EVIDENCE APPENDIX B

No evidence pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

RELATED PROCEEDINGS APPENDIX C

No related proceedings are referenced in II. above, hence copies of decisions in related proceedings are not provided.